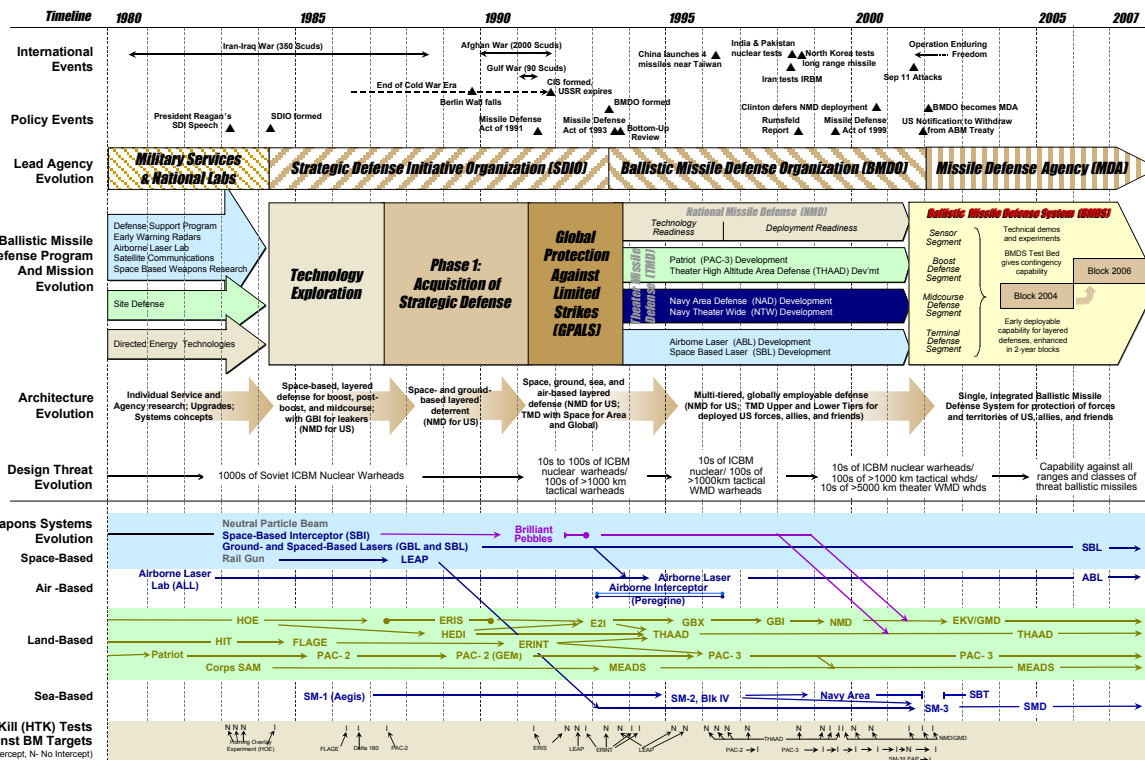


## Missile Defense Milestones

25 Jan 02	First SM-3/LEAP Hit-to-Kill Intercept of Exo Target, an Arries missile
2 Jan 02	SECDEF Rumsfeld designates BMDO as MDA, enhances Dir's authority
13 Dec 01	Pres Bush Notifies Russia of US Decision To Withdraw from ABM Treaty
1 May 01	Pres Bush announces new missile defense program at NDU
2 Oct 99	First NMD EKV Hit-to-Kill Intercept of Exo Target, a Minuteman Missile
16 Sep 99	First PAC-3 Missile Hit-to-Kill Intercept of Exo Target, a Hera Missile
2 Aug 99	First THAAD Missile Hit-to-Kill Intercept of Exo Target, a Hera Missile
10 Jun 99	First THAAD Missile Hit-to-Kill Intercept of Exo Target, a Hera Missile
31 Aug 98	North Korea Sends Taepo Dong 1 (IRBM) Missile Over Japan
15 Jul 98	Rumsfeld Report Highlights Rogue Nation Threat; US Intel Limitations
24 Jan 97	SM2 Block IVA Intercepts Lance Target; NTW Goes to EMD
20 Aug 96	Israelis Successfully Test Arrow II (Hetz-2) Anti-Ballistic Missile
15 Feb 94	ERINT Hits Target Missile With Simulated Chemical Warhead
30 Nov 93	ERINT Hits Storm Target Missile With Dummy Submunitions
13 May 93	SECDEF Aspin Designates SDIO As BMDO, Emphasis on TMD
25 Feb 91	Iraqi Scud Hits Saudi Facility, Killing 28 U.S. Service Members
18 Jan 91	PAC-2 Air Defense Missile Destroys Iraqi Scud, First Combat BMD
14 Jun 99	President Bush Directs BMD Emphasis on Boost Phase Kill Options
4 Nov 87	PAC-2 Patriot Missile Destroys Another Missile Simulating an SS-23
11 May 87	Testing of Space-based Weapons Is Ruled ABM Treaty Compliant
11 Sep 86	Delta 180 Experiment Achieved Equivalent of Boost Phase Intercept; Gathered Phenomenology Data for Space Operations
27 Jun 86	Flexible Lightweight Agile Guided Experiment (FLAGE) Hits Missile Target in Atmosphere
6 Sep 85	Mid-Infrared Advanced Chemical Laser (MIRACL) Destroys Titan Booster in a Test Against Possible Countermeasures
10 Jun 84	Army's Homing Overlay Experiment (HOE) Has Exo Hit-to-Kill
27 Mar 84	SECDEF Weinberger Creates SDIO; LtGen Abrahamson, Director
23 Mar 83	President Reagan Announces Strategic Defense Initiative (SDI)
2 Oct 76	Congress Votes to Close Safeguard System; BMD To Be R&D Only
1 Oct 76	Safeguard ABM System, Grand Forks, ND Is Fully Operational
26 May 72	Nixon and Brezhnev Sign SALT I Agreements, Including ABM Treaty
28 Aug 70	Spartan Missile From Kwajalein Hits Minuteman From Vandenberg
14 Mar 69	President Nixon Re-oriens BMD As "Safeguard" to Protect US ICBMs
18 Sep 67	President Johnson Directs Deployment of "Sentinel" BMD System, with Spartan (Exo) and Sprint (Endo) Nuclear Interceptors, Against "Nth Country Threat"
23 Jun 67	Premier Kosygin Rejects Johnson's Request to Give up Galosh ABM
19 Jul 62	Nike Zeus Missile Successfully Intercepts a Dummy ICBM Warhead
4 Mar 61	Soviet V-1000 Antimissile Conducts First Successful Missile Intercept
20 Jan 60	Soviets Claim Firing an ICBM 7,752 nm to within 1.24 mi of Target
16 Jan 58	SECDEF McElroy Assigns Responsibility for BMD to the Army
4 Oct 57	Soviet Union Launches Sputnik, the First Earth Orbiting Satellite
1955	Bell Labs Computer Study Shows One Missile Can Hit Another
23 Sep 49	First Test of a Soviet Atomic Bomb
29 May 46	Stillwell Board Report Recommends US Defenses vs Ballistic Missiles
8 Sep 44	First German V-2 Missiles Strike London During World War II

## The Road to Ballistic Missile Defense, 1983-2007



## Directors of Missile Defense Agency, Ballistic Missile Defense Organization, Strategic Defense Initiative Organization

**Ronald T. Kadish**  
Lieutenant General, USAF  
Director, BMDO, 1999-2002; MDA 2002 -  
Former Commander, Electronic Systems Center, AF Materiel Command; Program Director for C-17, F-16, and F-15 System Program Office; Director for Manufacturing and Quality Assurance for the B-1 Military Joint to the Joint Sec AF (Acquisition); Chief, Program Integration Division, Office of Sec AF (Acquisition); Graduate of OASD, OASD, Air C&S College; Instructor Pilot, Senior Pilot, MSA, BS (Chemistry)

**Lester L. Lyles**  
Lieutenant General, USAF  
Director, BMDO, 1996-1999  
Former Commander, Space and Missile Systems Center; Commander, Ogden Air Logistics Center; Dep CofS for Requirements, AF Systems; Chief, Director, Medium Launch Vehicles and Space Launch Systems Office; Director, Tactical Aircraft Systems, AFSC; Chief, Air Force Division, F-16 Systems Program Office; Graduate of NMC, OASD, Harvard National & International Security Management Ctr, MS, BS (Mech Eng)

**Malcolm R. O'Neill**  
Lieutenant General, USAF  
Director, BMDO, Acting Director, SDIO, 1993-1996  
Former Director, Army Acquisition Corps; Dep for Program Assessment and International Cooperation, Office of Sec Army (RD&A); Commander, Army Laboratory Command; CofS, Army Missile Command; Project Manager, Multiple Launch Rocket System; Program Manager, Strategic Fire Control Technology; DARPA; Dep PM, NATO Pattern Management Office; Graduate AWC, Army C&S College; PhD, MS, BS (Physics)

**Henry F. Cooper**  
Ambassador  
Director, SDIO, 1990-1993  
Former Senior VP for Strategic Planning, JAVCOR; Chief US Regulator, Defense and Space Talks with the Soviet Union; Asst Director, Arms Control and Disarmament Agency; Dep to Asst Sec AF for Strategic and Space Systems; Scientific Advisor to AF Weapons Lab; Dep Director, Nuclear Effects Division, R&D Associates; Faculty, Clemson Univ; Researcher, Bell Telephone Labs; PhD, MS, BS

**George L. Monahan, Jr.**  
Lieutenant General, USAF  
Director, SDIO, 1989-1990  
Former Principal Dep Asst Sec AF (Acquisition); Vice CofS, AF Sys Ctr; Director, Development & Production, Office of Dep CofS (RDA), Hqs, USAF; Program Director, F-16 Multinational Fighter System Program, AFSC; Chief, F-16 European Systems Program Office (Brussels); Asst Dep CofS, F-16 Pgm; Flight Control Officer, Gemini Launch Ctr; Graduate Air War Col; Army C&S Coll Command; PhD, MS, BS (Mech Eng)

**James A. Abrahamson**  
Lieutenant General, USAF  
Director, SDIO, 1984-1989  
Former Assoc Administrator for Space Transportation System, NASA; Dep CofS for Systems, AF Sys Ctr; Director, F-16 Multinational Air Ctr; Fighter Pgm; Inspector General, AFSC; CofS, 450th Test Wing; Pgm Mgr, Minuteman Missile Pgm; Staff, National Aeronautics & Space Council (White House); Astronaut, AF Materiel Office; Pgm; Graduate Air C&S Coll; Aerospace Research Pilot Sch (Test Pilot) M.S. BS (Aero Eng)

## Elements and Components of ...



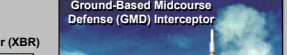
Phased Array X-Band Radar (XBR)



SBIRS High



GMD Kill Vehicle



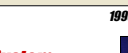
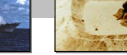
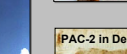
PAC-3/ERINT Intercept of Storm Missile



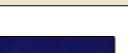
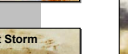
Sea-Based Midcourse Defense (SMD)



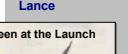
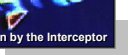
Airborne Laser



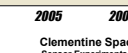
Airborne Laser



Airborne Laser



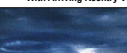
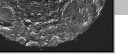
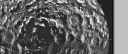
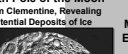
Airborne Laser



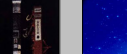
Airborne Laser



Airborne Laser



Airborne Laser



Airborne Laser

